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# Raising Geese



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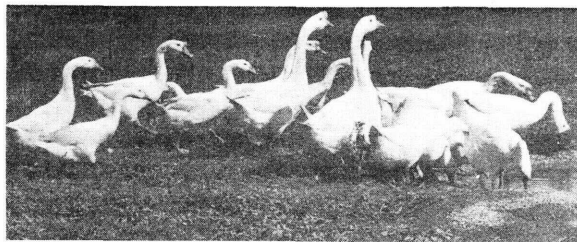
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On January 24, 1978, four USDA agencies—Agricultural Research Service (ARS), Cooperative State Research Service (CSRS), Extension Service (ES), and the National Agricultural Library (NAL)—merged to become a new organization, the Science and Education Administration (SEA), U.S. Department of Agriculture.

This publication was prepared by the Science and Education Administration's Agricultural Research staff, which was formerly the Agricultural Research Service.

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# Raising Geese

Geese are produced commercially on both general and specialized farms in the North-Central States, especially in Missouri, Iowa, South Dakota, Minnesota, Wisconsin, Ohio, and Indiana. California and Washington are also among the leading States in goose production.

Annual production is estimated at approximately 1 million birds. The number of farms selling geese has decreased in recent years, but the number of geese sold per farm has increased.

Geese also are raised in small flocks in all parts of the United States as a sideline, as a hobby, or for ornamental and exhibition purposes.

Geese are very hardy and are not susceptible to many of the common poultry diseases. They are excellent foragers although selective, and can be raised on good succulent pasture or lawn clippings as early as the first week.

## BREEDS

Toulouse, Emden, and African geese are the most popular breeds

raised in this country for meat production. Other common breeds in this country are Chinese, Canada, Buff, Pilgrim, Sebastopol, and Egyptian.

There are considerable differences in breeds and strains of geese. In choosing a breed, consider the purpose for which you are raising the geese. Geese are raised for meat and egg production, and as weeders, show birds, or farm pets. Both the standard breeds and crosses of breeds are raised for market. A cross of young white Chinese males with medium-size yearling Emden females usually results in fast-growing white geese of good market size.

Following are the standard weights of various breeds and the years these breeds were recognized, according to the Standard of Perfection published by the American Poultry Association, Inc. Some commercial stock, particularly the Toulouse, tends to be somewhat lighter than standard.



Breed	Year recognized	Weight of male		Weight of female	
		Young	Adult	Young	Adult
Pounds					
Toulouse	1874	20	26	16	20
Emden	1874	20	26	16	20
African	1874	16	20	14	18
Chinese	1874	10	12	8	10
Egyptian	1874	5	5½	4	4½
Canada	1883	10	12	8	10
Sebastopol	1938	12	14	10	12
Pilgrim	1939	12	14	10	13
Buff	1947	16	18	14	16

## Toulouse

The Toulouse (fig. 1) goose derives its name from the city of Toulouse in southern France, a territory noted for its geese. This breed has a broad, deep body and is loose-feathered, a characteristic which gives it a massive appearance. The plumage is dark gray on the back, gradually shading to light gray edged with white on the breast and to white on the abdomen. The eyes are dark brown or hazel, the bill pale orange, and the shanks and toes are a deep reddish orange.

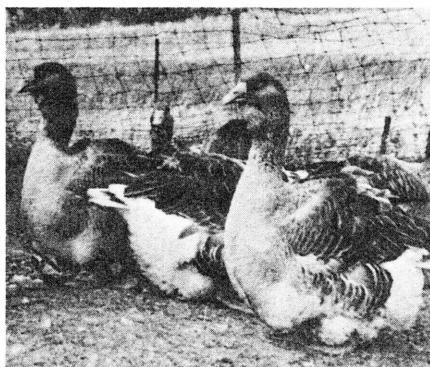


Figure 1.—Toulouse geese. 80946-B

## Emden

The Emden (fig. 2) was one of the first breeds of geese imported into the United States. This breed was known at first as Bremen, named after a German city from which early importations were made. The geese were later exported from Emden, Germany to England and the breed was re-named Emden.

The Emden is a pure white, sprightly goose. It is much tighter-feathered than the Toulouse and, therefore, appears more erect. The Emden is a fairly good layer, but production depends on the breeding and selection of the flock. Egg production averages from 35 to 40 eggs per mature breeding goose. The Emden is usually a better sitter than the Toulouse and is one of the most popular breeds for marketing. It grows rapidly and matures early.

## African

The African goose (fig. 3) is a handsome breed with a distinctive knob or protuberance on its head. Its carriage is more erect

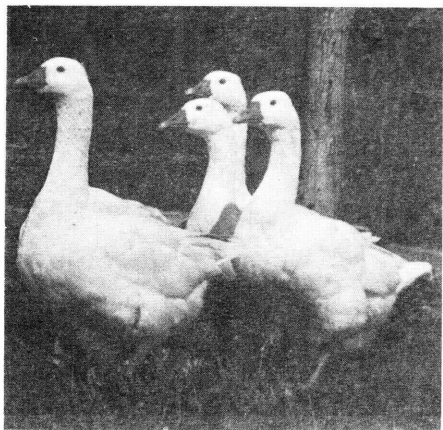


Figure 2.—Emden geese.

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than that of the Toulouse, and its body more nearly oblong and higher from the ground. The head is light brown, the knob and bill are black, and the eyes are dark brown. The plumage is ash brown on the wings and back and is light ash brown on the neck,

breast, and underside of the body. The African goose is a good layer, grows rapidly, and matures early. However, it is not as popular for market production as either the Emden or the Toulouse because of its dark beak and pinfeathers.

### Chinese

The Chinese goose, of which there are two standard varieties, the Brown and the White (fig. 4) originated in China and probably came from the wild Chinese goose. It is smaller than the other standard breeds and more swan-like in appearance. Both varieties mature early and are better layers than the other breeds, usually averaging from 40 to 65 eggs per bird annually. The Chinese goose grows rapidly, is a very attractive breed, makes a desirable me-

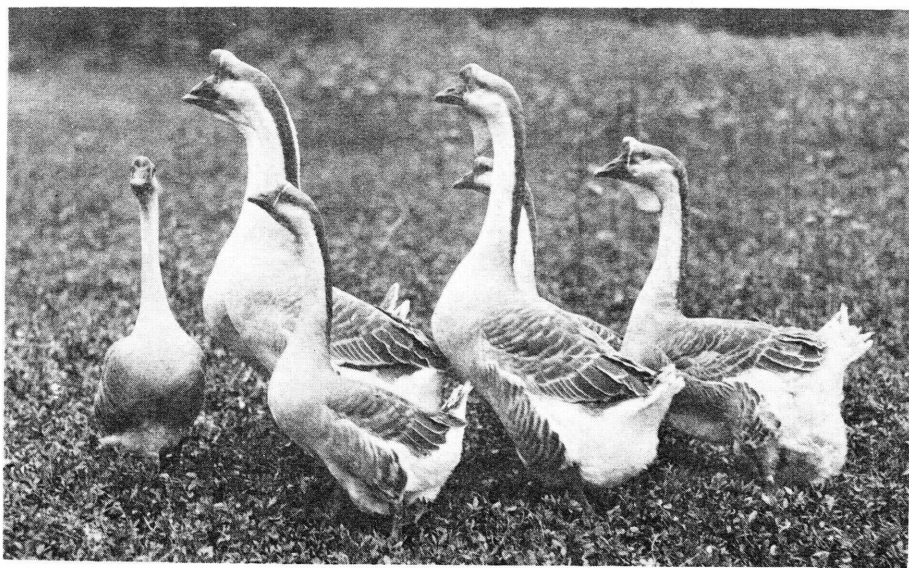


Figure 3.—Flock of African geese.

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dium-size market goose, and is very popular as an exhibition and ornamental breed.

### Canada

The Canada (fig. 5) is the common wild goose of North America. Subgroups range in weight from about 3 pounds for the cackling Canada goose to about 12 pounds for the giant Canada goose.

The Canada is of a species different from the other breeds of geese discussed in this bulletin and can be kept in captivity only by close confinement unless wing-clipped or pinioned. However, in some instances, Canada geese have become semi-domesticated by long residence on the farm. Before Canada geese can be sold or transferred to another person, a permit must be obtained from the Fish and Wildlife Service, U.S. Department of Interior, Washington, D.C. 20242.

Canada geese have long, slender necks, oblong bodies, and a

horizontal carriage. This breed does not have the economic value of the domestic breeds of geese. They mate only in pairs, are late maturing, and lay very few eggs. The wild gander is sometimes used to cross with domestic breeds, producing the so-called mongrel goose (which is a hybrid), usually sterile but with fine quality flesh.

### Pilgrim

The Pilgrim (fig. 6) is a medium-size goose that is good for marketing. A unique feature of this breed is that males and females may be distinguished by color. In day-old goslings the male is creamy white and the female gray. The adult male remains all white and has blue eyes; the adult female is gray and white and has dark hazel eyes.

### Buff

The Buff (fig. 7) has fair economic qualities as a market

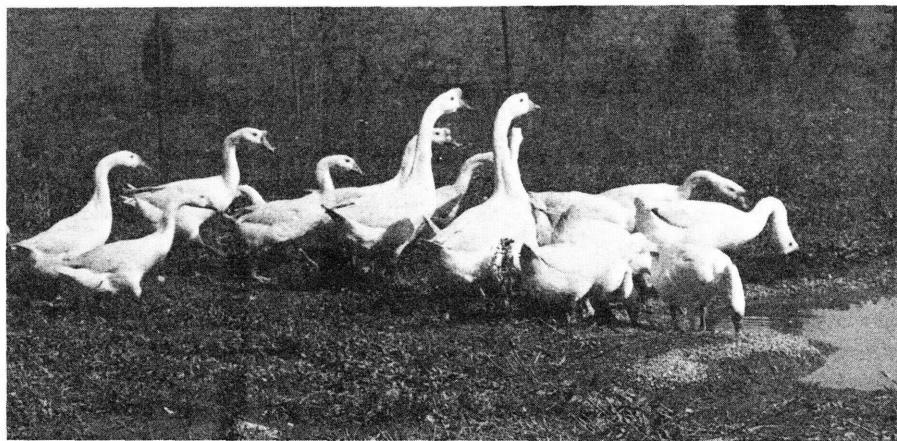


Figure 4.—Breeding flock of White Chinese geese in a pasture containing a small natural pond.

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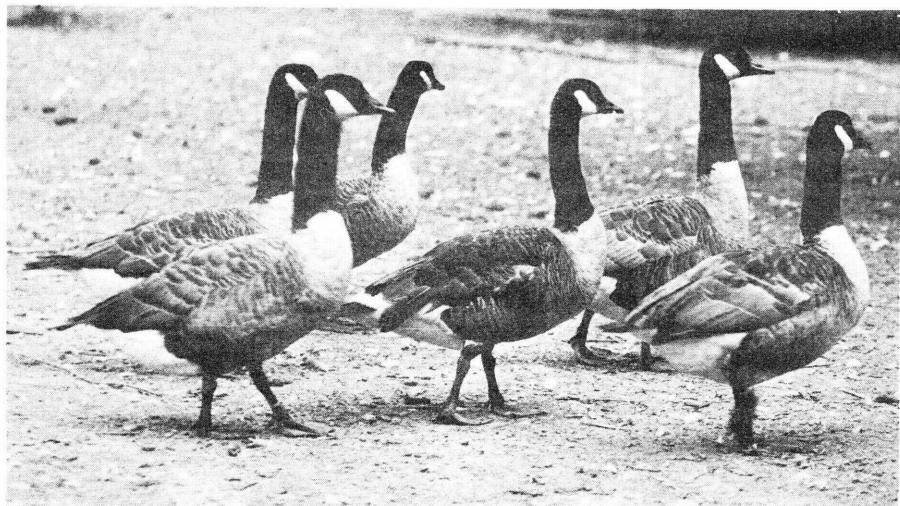


Figure 5.—Flock of Canada or wild geese.

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goose, but only a limited number have been raised for market. The color varies from dark buff on the back to a very light buff on the breast and from light buff to almost white on the under part of the body.

### Sebastopol

The Sebastopol is a white ornamental goose which is very attractive because of its soft plume-like feathering. This breed has long, curved, profuse feathers on its back and sides and short, curled feathers on the lower part of the body.

### Egyptian

The Egyptian is a long-legged, but very small goose, kept primarily for ornamental or exhibition purposes. Its coloring is mostly gray and black, with touches of white, reddish brown, and buff.

## GEESE MANAGEMENT

### Mating

Select geese for mating that are vigorous and well developed, that have shown rapid growth, and have compact, meaty bodies. Medium-size birds are usually the best breeders.

Mate geese at least one month prior to the breeding season. The larger breeds of geese mate best in twos or threes or in a ratio of one male to three or four females in large flock matings. Ganders of some of the lighter breeds will mate satisfactorily with four or five females.

Do not change geese matings from year to year except when the matings prove unsatisfactory. Geese are very slow to mate with new birds, so it is difficult to make changes in established matings or to introduce new stock into the flock. If matings are

changed, it is usually advisable to keep previously mated geese as far apart as possible. Since geese are easily disturbed, they should be handled carefully.

Sex is difficult to distinguish in all breeds of geese except the Pilgrim. In other breeds, sex can be determined by examination of the reproductive organs, which is done as follows:

Lift the goose by the neck and lay it on its back, either on a table or over your bended knee, with the tail pointed away from you. Move the tail end of the bird out over the edge so it can be readily bent downwards. Then insert your pointer finger (sometimes it helps to have a little vaseline on it) into the cloaca about half an inch and move it around in a circular manner several times to enlarge and relax

the sphincter muscle which closes the opening. Next apply some pressure directly below and on the sides of the vent to evert or expose the sex organs (fig. 8).<sup>1</sup>

### Breeding facilities

Breeding geese prefer to be outdoors. Except in extremely cold weather or in storms, mature geese seldom use a house. Colony poultry houses, open sheds, or barns are provided for shelter in the North.

Geese make nests on the floor of the house or in coops, boxes, or barrels provided in the yard. Outside nest-boxes (fig. 9) should be at least 24 inches square. Very crude nests are used in the open for many farm flocks of geese.

<sup>1</sup> From Bulletin 403, "Sex Determination of Geese," Agricultural Experiment Station, University of Minnesota.

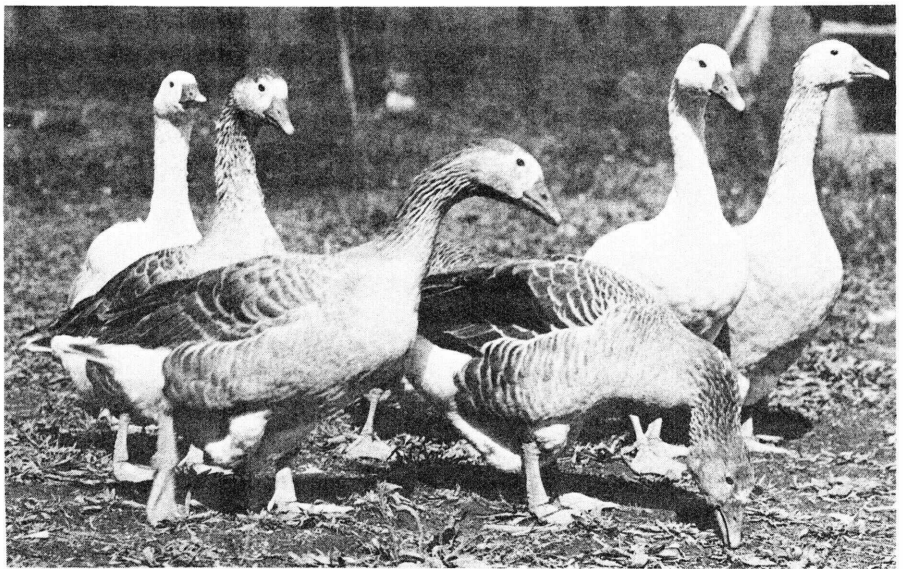
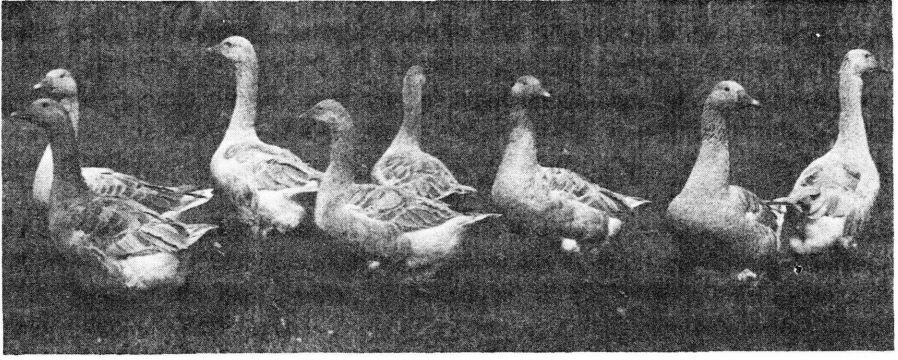


Figure 6.—Flock of Pilgrim geese. The males are white; the females are gray.

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Figure 7.—Breeding flock of Buff geese.

Straw or grass hay is used for outside nests as well as for the nests on the floor of a house. Provide one nest for every three females and allow the geese to select their own nests. Separate inside nests by partitions and place outside nests some distance apart to reduce fighting.

### Egg production

Geese generally start laying in February or March and often lay until early summer. However, the Chinese breed may start laying early in the winter.

Feed geese pelleted breeder ration at least a month before egg production is desired. They do much better on pellets than on mash and waste less feed. Use a chicken-breeder ration if special feeds for geese are not available. Provide oyster shells (or other calcium sources), grit, and plenty of clean fresh drinking water at all times.

Lights in the breeder house can be used to stimulate earlier egg production. In commercial flocks, artificial methods of hatching and rearing are also used.

To maintain egg production, feed laying pellets or mash, confine broody geese away from but in sight of their mates, and gather eggs several times each day to break up broodiness.

Young ganders make good breeders, but both sexes usually give best breeding results when they are 2 to 5 years old. Good fertility may be obtained in eggs from young birds, but these eggs may not hatch well. Although young flocks are considered more profitable, females will lay until they are 10 or more years of age, and ganders may be kept for more than 5 years.

### Incubation

Gather eggs twice daily, especially during cold weather. Store them at 55°F. and a relative humidity of 75 percent until set for hatching.

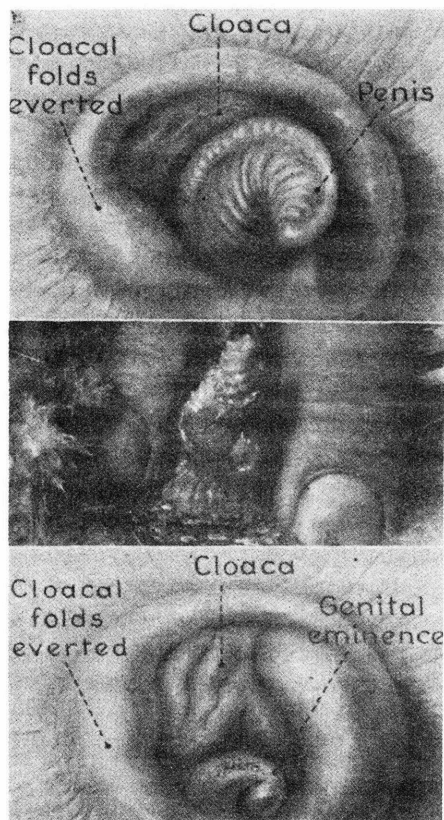
If eggs are held more than a couple of days, turn them daily to increase the percentage of hatch. Hatchability decreases fairly rapidly after a 6- or 7-day holding period although eggs, properly



stored, can be held 10 to 14 days with fair results.

Goose eggs can be washed just like chicken hatching eggs. Wash soiled eggs in warm (100 to 110°F.) water and a detergent sanitizer. For best results wash eggs soon after gathering, allow them to dry, and store them until ready for the incubator.

The incubation period for eggs of Canada and Egyptian geese is 35 days. All other goose eggs hatch in 29 to 31 days.



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Figure 8.—(Top) Exposed reproductive organ of an immature male. (Center) Reproductive organ of sexually mature male. (Bottom) Genital eminence of maturing female.

Small, inexpensive electric incubators, either still-air or forced-draft, can be used to hatch goose eggs. However, artificial incubation of goose eggs is much more difficult than eggs of chickens because more time and higher humidity are required. Breeders should gain experience with chicken eggs before attempting artificial incubation of goose eggs. When using an incubator, always follow the manufacturer's instructions.

Many goose breeders prefer to set eggs under chickens, turkeys, or ducks and allow the geese to continue to lay. Sometimes the eggs are set in an incubator for 2 weeks and then are placed under the hens for the remainder of the time required for hatching.

Turkeys and Muscovy ducks are larger and better than chickens for hatching goose eggs. Incubate four to six eggs under a setting chicken, and 10 to 12 under a turkey or duck depending on the size of the bird and the season of the year. Hens used for hatching goose eggs should be treated for lice.<sup>2</sup>

If the setting hen does not turn the eggs, mark the eggs with crayon or pencil and turn them daily by hand. A chicken hen cannot turn goose eggs.

<sup>2</sup> For information on controlling lice, see Leaflet 474, "Chicken Lice—How to Control Them." Single copies may be obtained from your county agricultural agent or write U.S. Department of Agriculture, Washington, D.C. 20250. Include your ZIP Code with your return address.

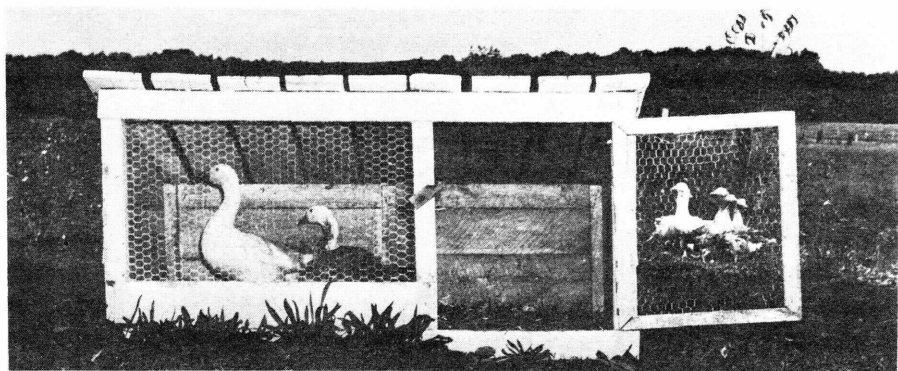


Figure 9.—Large laying nest for geese. The gander stays near the nest to protect the goose while she is laying.

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Moisture is needed where chicken or turkey hens are used for setting. Sprinkle the eggs during the incubation period and have the nest and straw on the ground or on grass-covered turf. Some growers report better hatchability if they lightly sprinkle the eggs or dip them in lukewarm water for half a minute daily during the last half of the incubation period. Eggs need no additional moisture if the setting goose has water for bathing.

Remove goslings from the nest as they hatch and keep them in a warm place until the youngest is several hours old. If this is not done, the setting hen may leave the nest along with the hatched goslings before all the eggs are hatched.

### Brooding and rearing

A special brooder building is not required for brooding small numbers of geese. Any small building or a corner of a garage or barn can be used as a brooding area for a small flock if it is dry,

reasonably well lighted and ventilated, and free from drafts. The building must also be protected against dogs, cats, and rats. For brooding large numbers of geese, provide a barn, large poultry house, or regular broiler house.

Allow at least 1/2 square foot of floor space per bird at the start of the brooding period and gradually increase the space to 1 square foot at the end of 2 weeks. If the birds are confined longer because of inclement weather, provide additional space as they increase in size.

Cover the floor with 4 inches of such absorbent litter as wood shavings, chopped straw, or peat moss. To maintain good litter, stir frequently, remove wet spots, and periodically add clean, dry litter. Be sure litter is free from mold.

Goslings can be successfully brooded by broody chicken hens and most breeds of geese. If the young birds were not hatched by the brooding female, place them under her at night. Be certain

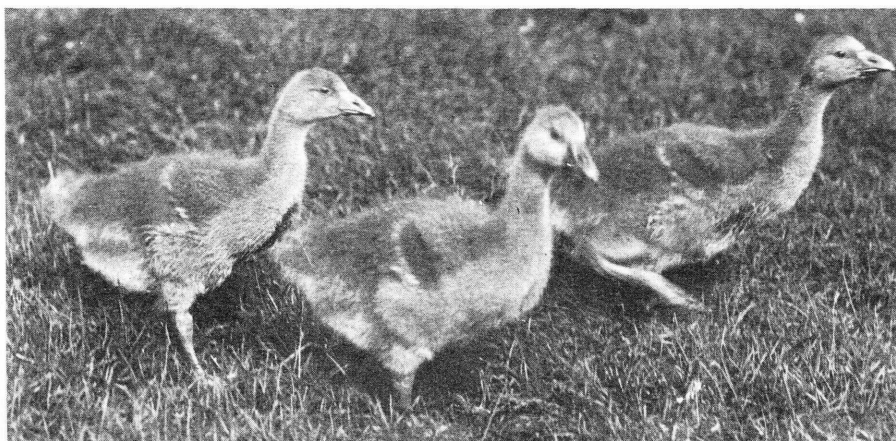


Figure 10.—Toulouse goslings about a month old.

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broody birds are free of lice and mites. One hen can raise five goslings. In mild weather, the hens may only need to brood the goslings for 10 to 14 days, after which the goslings can get along without heat.

Goslings are artificially brooded in many types of heated brooders. Infrared lamps are a convenient source of heat. Buy enough to furnish sufficient heat at the lowest temperatures expected.

When using hover-type brooders, brood only about one-third as many goslings as the brooder's chick capacity. Because goslings are large in size, it may be necessary to raise the hover 3 to 4 inches higher than for baby chicks. Fence in the brooding area for the first few days with a corrugated-paper or wire-mesh fence.

At the start, set the temperature of the hover at 85 to 90° F. Reduce the temperature 5 to 10° per week until 70° is reached.

The behavior of the goslings will indicate their comfort. If they are cold, they will huddle together under the lamps. If they are too warm, they will move away from the heat source.

In warm weather, the goslings can go outdoors as early as 2 weeks but will need frequent attention until they learn to go back into the coop or brooder when it rains. They must be kept dry to prevent chilling that can result in piling and smothering.

Houses are usually not needed after the geese are 6 to 8 weeks old.

### Nutrition <sup>3</sup>

Goslings should have drinking water and feed when they are

<sup>3</sup> The information on feeding geese is based upon the recommendations of the Department of Poultry Science, Ontario Agricultural College, University of Guelph, Ontario, Canada, and the New Mexico Agricultural Experiment Station, University Park, New Mexico 88001.



started under the brooder or hen. Supply plenty of watering space. Use waterers that the birds cannot get into but that are wide and deep enough for the bird to dip both bill and head.

Start with two automatic cup-type waterers for each 100 to 200 geese, depending on the environmental temperature. Increase the number of waterers as the birds grow. Watering jars or a trough with wire guard and running water are also suitable for young goslings. If troughs are installed, figure on 8 feet of trough space for 500 goslings for the first 2 weeks of age; then, as needed, increase the space up to 20 feet.

On range the waterer can consist of a barrel or large tank rigged to an automatic float in a watering trough. If waterers are indoors, they should be kept on wire platforms with underdrainage to help keep the litter dry.

For the first few days of feeding use shallow pans or small feed hoppers in addition to the regular feeders. For each 100 confined goslings on full feed, provide either two hanging tube feeders with pans that are 50 inches in circumference or 8 feet of trough space. Increase the feeding space as the birds grow. When feed intake is being restricted, provide enough space so that all geese can eat at one time.

For geese raised on range for market, use two wooden hoppers or two turkey range feeders for each 250 birds. The hoppers should be large enough so that

they will need to be filled only once or twice weekly. Construct the hoppers so that feed is protected from rain, sun, and wind.

A mechanical feeder is suitable for large-scale production. Geese may be fed pellets, mash, or whole grains. For the first 3 weeks, feed goslings a 20- to 22-percent protein goose starter in the form of 3/32- or 3/16-inch pellets. After 3 weeks, feed a 15-percent goose grower in the form of 3/16-inch pellets.

Although geese can go on pasture as early as the first week, a good share of their feed can be forage after they are 5 to 6 weeks old.

Geese are very selective and tend to pick out the palatable forages. They will reject alfalfa and narrow-leaved tough grasses and select the more succulent clovers and grasses. Geese cannot be raised satisfactorily on dried-out, mature pasture.

An acre of pasture will support 20 to 40 birds, depending on the size of the geese and the quality of the pasture. A 3-foot woven wire fence will confine the geese to the grazing area. Be sure that the pasture areas and green feed have not had any chemical treatment that may be harmful to the birds.

If pasture is plentiful and of good quality, the amount of pellets may be restricted to about 1 to 2 pounds per goose per week until the birds are 12 weeks of age. However, for maximum growth, increase the amount of

feed as the supply of young, tender grass decreases or when the geese reduce their consumption of grass. From 12 weeks to market, offer the birds pellets on a free choice basis, even when on range.

Mash or whole grains can be fed alone or they can be mixed at a 50:50 mash-to-grain ratio. At 3 weeks of age, use a mash-to-grain mix of approximately 60:40. Change this ratio gradually during the growing period until at market age the geese are receiving a 40:60 ratio of mash to grain. Depending on the quality and quantity of available pasture, adjust these ratios up or down slightly.

Wheat, oats, barley, and corn may be used as the whole grains in various mixtures, such as equal parts of wheat and oats. All-corn can be substituted when the goslings are 6 weeks old. For maximum growth, it is important that mash-and-grain mixtures provide similar nutrient intake (15 percent protein) as the all-mash diets.

Grower-size insoluble grit should be freely available to geese throughout the growing period. If feeds for geese are not available, use a chicken feed formulated for the same age bird.

## GEESE AS WEEDERS

Because geese will eat weeds without harming certain cultivated plants, they are frequently used as weeders for such crops as strawberries, sugar beets, corn,

cotton, and ornamental plants. They are also used in orchards and vineyards.

For best results, start with 6-week-old goslings and provide them shade and waterers spaced throughout the field. Keep weeder goslings hungry. A light feed of grain at night is enough; vary the amount depending on the availability of weeds and grass.

For more complete information on geese as weeders, request the Missouri University Guide, "Weeding With Geese," from the Department of Poultry Husbandry, University of Missouri, Columbia, Missouri 65201.

## KILLING AND PICKING

Starve geese for about 12 hours before killing them, but keep water before them.

To kill, place geese in funnels or hang them by the legs in shackles. Cut throat at the base of the beak to sever the jugular vein and carotid artery.

Geese can be scalded or picked dry. The dry method, if well done, results in an attractive carcass but is now usually considered too slow and laborious to be economical. There is also more danger of tearing the skin in dry-picking.

Geese can be scalded in a commercial scalding, or they can be hand-scalded for a small operation. Water temperature should be from 145° to 155° F. The length of scald varies from 1-1/2 to 3 minutes. The time and temperature will vary depending on

age of the bird, time of year, and density of feathering. Also, the lower the temperature, the longer the required scalding time. Add a little detergent to the water to hasten thorough wetting of the feathers.

To hand-scald, grasp the goose firmly by the bill with one hand and by the legs with the other, then submerge its body (breast down) in the scalding water. Pull the bird repeatedly through the water against the lay of the feathers; this action serves to force the water through the feathers to the skin. The sparser feathering on the back needs lighter scalding than the heavier and denser feathering on the breast.

After scalding, the birds may be rough-picked by hand, picked on some type of conventional rubber-fingered picking machine, or placed in a spinner-type picker. Pinfeathers and down remaining on the carcass after rough-picking are difficult to remove by hand. This is done by grasping the pinfeathers between your thumb and a dull knife. Because of the difficulty of handpicking, it is common practice to finish the rough-picked birds by dipping each bird in melted wax (a wax formulated for this purpose).

In small operations, dry off the rough-picked geese just enough to "take" the wax; then dip them several times in wax held at 150° to 160° F. to build up a heavy enough layer of wax to supply good pulling power. A better job results with the use of two tanks

of wax, one held at 160° to 170°, and the second at about 150°—the hotter wax is used for penetration and the cooler for buildup.

In large-scale operations, the birds are waxed in an on-the-line process with a wax temperature of 145° to 220° F. After waxing, the birds are exposed to a cold water spray or dipped in a tank of cold water to cool and harden the wax to a "tacky" condition. The wax is then removed by hand resulting in a clean, attractive carcass. The wax is reclaimed by remelting and straining out the pins, down, and feathers.

## GRADING

The United States standards of quality are essentially the same for all poultry. Geese, as other poultry, are graded for conformation, fleshing, and fattening. Defects, such as missing skin and bruises, are also considered in establishing quality.

Further information on the voluntary grading program for poultry may be obtained from the Poultry Division, Agricultural Marketing Service, USDA, Washington, D.C. 20250.

## MARKETING

### Geese

Farm geese are usually marketed in the fall and winter, at which time they are relatively free of pinfeathers. Most geese are marketed when they are 5 to 6 months old; they will weigh



from 11 to 15 pounds depending on the strain and breed. Some young geese (also called green geese or junior geese) full-fed for rapid growth are marketed at 10 to 12 pounds when they are 10 to 13 weeks old.

The best markets for geese are in large cities. Geese bring the highest prices at Thanksgiving and Christmas.

Information on the prices of ready-to-cook geese to retailers for the months of November and December, f.o.b. seller's dock, New York City, is obtainable from the Poultry Division, Market News Branch, Agricultural Marketing Service, USDA, Washington, D.C. 20250.

Geese are sold alive usually to live-poultry buyers or to poultry dressing and packing companies.

## Feathers

Goose feathers are valuable and, if properly cared for and marketed, may be a source of extra income. Three geese usually produce one pound of dry feathers. These feathers are used chiefly by bedding and clothing industries. Buyers of feathers are in most large cities.

Feathers may be sold to a feather-processing plant, or a small producer can wash and dry the feathers on his own premises. To wash feathers, use soft, lukewarm water to which has been added either a detergent or a little borax and washing soda. Rinse the feathers, wring, then spread them out to dry.

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